Algebra II – Unit 4 – ELL Scaffold

	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 1 CCSS: G.PE.2 WIDA ELDS: Reading Writing	Derive the equation of a parabola given a focus and directrix.		After deriving the equation of a parabola (given a focus and directrix) explain the process in writing using Word Wall, Math Journal *and* Small group/triads.		**VU:** Parabola, focus, directrix, arbitrary point, vertex **LFC:** Present tense **LC:** Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	After deriving the equation of a parabola (given a focus and directrix) explain in L1 and/or use gestures, examples and selected technical words.	After deriving the equation of a parabola (given a focus and directrix) explain in L1 and/or use selected technical vocabulary in phrases and short sentences.	After deriving the equation of a parabola (given a focus and directrix) explain using key, technical vocabulary in a series of simple sentences.	After deriving the equation of a parabola (given a focus and directrix) explain using key, technical vocabulary in expanded sentences.	After deriving the equation of a parabola (given a focus and directrix) explain the process in writing using technical vocabulary in complex sentences.
Learning Supports	White Board Math Journal Small group/triads Word/Picture Wall L1 text and/or support Pictures/illustrations	White Board Math Journal Small group/triads Word/Picture Wall L1 text and/or support Sentence Frame	White Board Math Journal Small group/triads Word Wall Sentence Starter	White Board Math Journal Small group/triads	White Board Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 2 CCSS: N.Q.2, F.IF.4, F.IF.7 WIDA ELDS: Reading Listening Writing	Graph functions that model relationships between two quantities, expressed symbolically, and show key features of the graph (including intercepts, intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity) by hand in simple cases and using technology for more complicated cases. ★	Demonstrate comprehension of graphing functions that model relationships between two quantities expressed symbolically by constructing the graph and showing and explaining its key features by hand in simple cases and using technology for more complicated cases *using* Math Journal, Sentence Frame *and* Small group/triads.	**VU:** Intercepts, intervals, symmetries, end behavior, periodicity, coordinate plane **LFC:** Wh- questions, present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Demonstrate comprehension of complex questions in L1 and/or simplified questions with drawings and selected technical words concerning graphing functions symbolically by showing and explaining key features of the graph by hand and/or using technology.	Demonstrate comprehension of complex questions in L1 and/or simplified questions with selected vocabulary in phrases and short sentences concerning graphing functions symbolically by showing and explaining key features of the graph by hand and/or using technology for more complicated cases.	Demonstrate comprehension of simple questions with key technical vocabulary concerning graphing functions symbolically by showing and explaining key features of the graph by hand and/or using technology for more complicated cases.	Demonstrate comprehension of some complex questions with key technical vocabulary concerning graphing functions symbolically by showing and explaining key features of the graph by hand in simple cases using technology for more complicated cases.	Demonstrate comprehension of complex questions with technical vocabulary concerning graphing functions symbolically by showing and explaining key features of the graph by hand in simple cases and using technology for more complicated cases.
Learning Supports	Teacher Modeling Math Journal Small group/triads Word/Picture Wall L1 text and/or support Pictures/illustrations	Teacher Modeling Math Journal Small group/triads Word/Picture Wall L1 text and/or support Sentence Frame	Teacher Modeling Math Journal Small group/triads Word Wall	Teacher Modeling Math Journal Small group/triads	Teacher Modeling Math Journal

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 3 CCSS: F.IF.6 WIDA ELDS: Reading Writing	Estimate, calculate and interpret the average rate of change of a function presented symbolically, in a table, or graphically over a specified interval. ★		After estimating, and calculating the average rate of change of a function presented symbolically, in a table, or graphically over a specified interval; interpret the answer in writing the using Math Journal *and white board*		**VU:** Average rate, function, gauge, height, meters **LFC:** Present tense **LC:** Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	After estimating, and calculating the average rate of change of a function presented symbolically, in a table, or graphically over a specified interval; interpret the answer in writing in L1 and/or use gestures, examples and selected technical words.	After estimating, and calculating the average rate of change of a function presented symbolically, in a table, or graphically over a specified interval; interpret the answer in writing in L1 and/or use selected technical vocabulary in phrases and short sentences.	After estimating, and calculating the average rate of change of a function presented symbolically, in a table, or graphically over a specified interval; interpret the answer in writing using key, technical vocabulary in a series of simple sentences.	After estimating, and calculating the average rate of change of a function presented symbolically, in a table, or graphically over a specified interval; interpret the answer in writing using key, technical vocabulary in expanded sentences.	After estimating, and calculating the average rate of change of a function presented symbolically, in a table, or graphically over a specified interval; interpret the answer in writing using technical vocabulary in complex sentences.
Learning Supports	White Board Math Journal Small group/triads Word/Picture Wall L1 text and/or support Pictures/illustrations	White Board Math Journal Small group/triads Word/Picture Wall L1 text and/or support Sentence Frame	White Board Math Journal Small group/triads Word Wall	White Board Math Journal Small group/triads	White Board Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 4 CCSS: F.IF.8 WIDA ELDS: Reading Listening Writing	Rewrite a function in different but equivalent forms to identify and explain different properties of the function.	Demonstrate comprehension by rewriting a function in different but equivalent forms to identify and explain different properties of the function using Math Journal, Word Wall *and* Peer Coach.	**VU:** Properties, function, vertex, volume function **LFC:** present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Demonstrate comprehension by rewriting a function in different but equivalent forms to identify and explain different properties of the function in L1 and/or use gestures, examples and selected technical words.	Demonstrate comprehension by rewriting a function in different but equivalent forms to identify and explain different properties of the function in L1 and/or use selected technical vocabulary in phrases and short sentences.	Demonstrate comprehension by rewriting a function in different but equivalent forms to identify and explain different properties of the function using key, technical vocabulary in a series of simple sentences.	Demonstrate comprehension by rewriting a function in different but equivalent forms to identify and explain different properties of the function using key, technical vocabulary in expanded sentences.	Demonstrate comprehension by rewriting a function in different but equivalent forms to identify and explain different properties of the function using technical vocabulary in complex sentences.
Learning Supports	White Board Math Journal Peer coaching Word/Picture Wall L1 text and/or support	White Board Math Journal Peer coaching Word/Picture Wall L1 text and/or support Sentence Frame	White Board Math Journal Peer coaching Word Wall	White Board Math Journal Peer coaching	White Board Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 5 CCSS: F.IF.9, FBF.3. WIDA ELDS: Reading Writing Speaking	Analyze and compare properties of two functions when each is represented in a different form (algebraically, graphically, numerically in tables, or by verbal descriptions).	Compare and contrast orally and in writing the properties of two functions when each is represented in a different form *using a* Graphic Organizers*,* Math Journal *and* Peer Coach*.*	**VU:** Compare, contrast, differences, similarities, compute, amplitudes **LFC:** Present tense, imperative, How- questions **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Compare and contrast orally and in writing the properties of two functions when each is represented in a different form in L1 and/or use gestures, examples and selected technical words.	Compare and contrast orally and in writing the properties of two functions when each is represented in a different form in L1 and/or use selected technical vocabulary in phrases and short sentences.	Compare and contrast orally and in writing the properties of two functions when each is represented in a different form using key, technical vocabulary in a series of simple sentences.	Compare and contrast orally and in writing the properties of two functions when each is represented in a different form using key, technical vocabulary in expanded sentences.	Compare and contrast orally and in writing the properties of two functions when each is represented in a different form using technical vocabulary in complex sentences.
Learning Supports	Graphic Organizerss Math Journal Peer coaching Word/Picture Wall L1 text and/or support Pictures/illustrations	Graphic Organizerss Math Journal Peer coaching Word/Picture Wall L1 text and/or support Sentence Frame	Graphic Organizerss Math Journal Peer coaching Word Wall	Graphic Organizerss Math Journal Peer coaching	Graphic Organizerss Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 6 CCSS: F.BF.1 WIDA ELDS: Reading Listening Writing	Construct a function that combines standard function types using arithmetic operations to model a relationship between two quantities.★	After listening to an oral explanation and reading the directions, construct and explain, in writing, a function that combines standard function types using arithmetic operations to model relationships between to quantities *using* Teacher Modeling, Word Wall, Math Journal *and* Peer Coach.	**VU:** Radius, hemisphere, function, area, function **LFC:** Present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	After listening to an oral explanation and reading the directions, construct and explain, in writing, a function that combines standard function types using arithmetic operations in L1 and/or use gestures, examples and selected technical words.	After listening to an oral explanation and reading the directions, construct and explain, in writing, a function that combines standard function types using arithmetic operations in L1 and/or use selected technical vocabulary in phrases and short sentences.	After listening to an oral explanation and reading the directions, construct and explain, in writing, a function that combines standard function types using arithmetic operations using key, technical vocabulary in a series of simple sentences.	After listening to an oral explanation and reading the directions, construct and explain, in writing, a function that combines standard function types using arithmetic operations using key, technical vocabulary in expanded sentences.	After listening to an oral explanation and reading the directions, construct and explain, in writing, a function that combines standard function types using arithmetic operations using technical vocabulary in complex sentences.
Learning Supports	Teacher Modeling Math Journal Small group/triads Word/Picture Wall L1 text and/or support Pictures/illustrations	Teacher Modeling Math Journal Small group/triads Word/Picture Wall L1 text and/or support Sentence Frame	Teacher Modeling Math Journal Small group/triads Word Wall	Teacher Modeling Math Journal Small group/triads	Teacher Modeling Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 7 CCSS: FBF.3 A.APR.4 WIDA ELDS: Reading Writing Speaking	Identify and illustrate (using technology) an explanation of the effects on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs.	Demonstrate comprehension of the effects on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k, by identifying and illustrating an explanation of the effects using technology and finding the value of k given the graphs *using* Math Journal, Small group/triads *and online support (dictionaries, visuals).*	**VU:** Function, graph, radius **LFC:** Present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Demonstrate comprehension of the effects on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k, by illustrating an explanation using technology and finding the value of k given the graphs in L1 and/or use gestures, examples and selected technical words.	Demonstrate comprehension of the effects on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k, by illustrating an explanation using technology and finding the value of k given the graphs in L1 and/or use selected technical vocabulary in phrases and short sentences.	Demonstrate comprehension of the effects on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k, by illustrating an explanation using technology and finding the value of k given the graphs using key, technical vocabulary in a series of simple sentences.	Demonstrate comprehension of the effects on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k, by illustrating an explanation using technology and finding the value of k given the graphs using key, technical vocabulary in expanded sentences.	Demonstrate comprehension of the effects on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k, by illustrating an explanation using technology and finding the value of k given the graphs using technical vocabulary in complex sentences.
Learning Supports	Online support Math Journal Small group/triads Word/Picture Wall L1 text and/or support Pictures/illustrations	Online support Math Journal Small group/triads Word/Picture Wall L1 text and/or support Sentence Frame	Online support Math Journal Small group/triads Word Wall Sentence Starter	Online support Math Journal Small group/triads	Online support Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 8 CCSS: F.LE.4 WIDA ELDS: Reading Writing Speaking	Express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.	Demonstrate comprehension by expressing the solution to $ab^{ct}=d$ where a, c, and d are numbers and the base b is 2, 10, or e as a logarithm; evaluate the logarithm using technology *using* Math Journal, Small group/triads *and online support (dictionaries, visuals)*	**VU:** Logarithm, decimal place, equation, rounded **LFC:** Present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Describe and explain as a logarithm the solution to abct=d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm in L1 and/or use gestures, examples and selected technical words.	Describe and explain as a logarithm the solution to abct=d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm in L1 and/or use selected technical vocabulary in phrases and short sentences.	Describe and explain as a logarithm the solution to abct=d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using key, technical vocabulary in a series of simple sentences.	Describe and explain as a logarithm the solution to abct=d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using key, technical vocabulary in expanded sentences.	Describe and explain as a logarithm the solution to abct=d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technical vocabulary in complex sentences.
Learning Supports	Online support (dictionaries) White Board Math Journal Small group/triads Word/Picture Wall L1 text and/or support Pictures/illustrations	Online support (dictionaries) White Board Math Journal Small group/triads Word/Picture Wall L1 text and/or support Sentence Frame	Online support (dictionaries) White Board Math Journal Small group/triads Word Wall	Online support (dictionaries) White Board Math Journal Small group/triads	White Board Math Journal